What is claimed is:

1. A method for avoiding excessive overhead by a programmed computer while using a form of SSA (Static Singe Assignment) extended to use storage locations other than local variables, comprising the step of:

    allowing a program to use a compiler representation known as SSA form on any

5   memory location addressable by the program; SSA form is normally only usable on function local variables.

2. The method as claimed in claim 1, further comprising the steps of:

    inserting phi functions at any place in the function where multiple definitions of a same non-SSA variable may be merged, the phi-functions producing a new definition of the variable at a point where they are inserted;

5   finding which operations may implicitly read or write complex variables that are in SSA form;

    adding write-back copy operations at appropriate locations to write complex variables that are in SSA form, the write-back copy operations writing an SSA variable back to its real location;

10   adding read-back copy operations at appropriate locations to read possibly modified values back into new SSA definitions, the read-back; copy operations defining a new SSA variable from a variable's real location; and

    replacing every non-SSA variable definition by a definition of a unique SSA-variable, and replacing every non-SSA variable reference by a reference to an

15   appropriate SSA-variable.